

IN THE CLAIMS

1. (Currently Amended) A molding method using ultrasonic vibration in which a resin material in a molten state is injected from an injection apparatus, filled into a cavity of a mold, and cooled down to obtain a product in a predetermined shape, the method comprising:

preparing a mold having a product cavity to mold a product, a dummy cavity to mold a dummy product, and a runner by which the product cavity and the dummy cavity are connected;
injecting a resin material in a molten state into the product cavity via an injection apparatus;

injecting the resin material in a molten state into at least part of the dummy cavity; and
applying ultrasonic vibration to the resin material in the dummy cavity at a predetermined timing time.

2. (Currently Amended) A molding method using ultrasonic vibration in which a resin material in a molten state is injected from an injection apparatus, filled into a cavity of a mold, and cooled down to mold a product in a predetermined shape, the method comprising:

preparing a mold having a plurality of product cavities to mold products, a runner by which the product cavities are connected to each other, and a resin pit located at a halfway part of the runner;

injecting the resin material into the resin pit ~~until the resin material fills~~ thereby filling all of the plurality of product cavities; and

applying ultrasonic vibration to the resin material in the resin pit at a predetermined timing time.

3. (Currently Amended) The molding method using the ultrasonic vibration according to claim 1, wherein the predetermined timing time is after start of supply of the resin material to at least part of the dummy cavity ~~or the resin pit~~ and while the resin material in the runner has a predetermined viscosity.

4. (Previously Presented) The molding method using the ultrasonic vibration according to claim 1, wherein the ultrasonic vibration is applied while a compressed state is maintained after the resin material is filled into the product cavity and compressed.
5. (Previously Presented) The molding method using the ultrasonic vibration according to claim 1, wherein the ultrasonic vibration is applied so that an amount of the resin material flowing into the product cavity from the dummy cavity and air gaps other than the product cavity is in a range of 0.1% by volume to 5% by volume of the resin material filled into the product cavity.
6. (Previously Presented) The molding method using the ultrasonic vibration according to claim 1, wherein the ultrasonic vibration is applied immediately after the filling of the resin material is started and until a gate in communication with the product cavity is sealed.
7. (Previously Presented) The molding method using the ultrasonic vibration according to claim 1, wherein a nozzle of a molding machine to supply the resin material to the mold is closed immediately after the filling of the resin material is completed.
8. (Original) The molding method using the ultrasonic vibration according to claim 7, wherein the product is an optical lens.
9. (Previously Presented) The molding method using the ultrasonic vibration according to claim 7, wherein the optical lens is a spectacle lens, and the method further comprises subjecting the obtained spectacle lens to a surface treatment.
10. (Previously Presented) An optical lens manufactured by a molding method according to claim 8.

11. (Currently Amended) A molding machine in which a resin material is injected from an injection apparatus, filled into a cavity formed in a mold, and compressed to mold a product in a predetermined shape, the molding machine comprising:

a mold having a product cavity for molding a product;

an injection apparatus for injecting a resin material into said mold;

a dummy cavity for molding a dummy product[[],];

a runner connecting the product cavity and the dummy cavity; and

ultrasonic wave application means for applying ultrasonic vibration to resin material in the dummy cavity[[]; and[]]

~~control means for controlling application timing of the ultrasonic vibration by the ultrasonic wave application means.~~

12. (Currently Amended) A molding machine in which a resin material is injected from an injection apparatus into a cavity formed in a mold and compressed to mold a product in a predetermined shape, the molding machine ~~being~~ comprising:

a mold having a plurality of product cavities for molding products;

a runner connecting the product cavities to each other[[],];

a resin pit located at a halfway part of the runner;

an injection apparatus for injecting a resin material into said resin pit, thereby filling the plurality of product cavities with resin via said runner; and

ultrasonic wave application means for applying ultrasonic vibration to resin material in the resin pit[[]; and[]]

~~control means for controlling application timing of the ultrasonic vibration by the ultrasonic wave application means.~~

13. – 14. (Cancelled)

15. (Previously Presented) The molding machine according to claim 11, wherein the mold has a sprue in communication with the runner.

16. (Previously Presented) The molding machine according to claim 11, wherein a resin pit is located at a midpoint of the runner.

17. (Previously Presented) The molding machine according to claim 11, wherein the product is an optical lens.

18. (Cancelled)

19. (Previously Presented) The molding method according to claim 1, wherein the resin is injected from the injection apparatus into the runner, and from the runner into the dummy mold and the product mold.

20. (Previously Presented) The molding machine according to claim 11, further comprising a fixed mold and a moveable mold,

wherein both the dummy cavity and the product cavity are located in the same one of the fixed mold and the moveable mold, and the ultrasonic wave application means is located in the other of the fixed mold and the moveable mold, such that when the fixed mold and the moveable mold are connected, a portion of the ultrasonic wave application means is able to contact resin in the dummy cavity.

21. (Previously Presented) The molding machine according to claim 12, wherein a resin-holding capacity of the resin pit relative to each of the product cavities is between 10% and 40%.

22. (New) The molding method using the ultrasonic vibration according to claim 2, wherein the predetermined time is after start of supply of the resin material to at least part of the resin pit and while the resin material in the runner has a predetermined viscosity.
23. (New) The molding method using the ultrasonic vibration according to claim 2, wherein the ultrasonic vibration is applied while a compressed state is maintained after the resin material is filled into the product cavity and compressed.
24. (New) The molding method using the ultrasonic vibration according to claim 2, wherein the ultrasonic vibration is applied so that an amount of the resin material flowing into the product cavity from the resin pit and air gaps other than the product cavity is in a range of 0.1% by volume to 5% by volume of the resin material filled into the product cavity.
25. (New) The molding method using the ultrasonic vibration according to claim 2, wherein the ultrasonic vibration is applied immediately after the filling of the resin material is started and until a gate in communication with the product cavity is sealed.
26. (New) The molding method using the ultrasonic vibration according to claim 2, wherein a nozzle of a molding machine to supply the resin material to the mold is closed immediately after the filling of the resin material is completed.

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27. (New) The molding method using the ultrasonic vibration according to claim 26, wherein the product is an optical lens.

28. (New) The molding method using the ultrasonic vibration according to claim 26, wherein the optical lens is a spectacle lense, and the method further comprises subjecting the obtained spectacle lens to a surface treatment.

29. (New) An optical lens characterized by being manufactured by a molding method according to claim 27.

30. (New) The molding machine according to claim 12, wherein the mold has a sprue in communication with the runner.

31. (New) The molding machine according to claim 12, wherein the resin pit is located at a midpoint on the runner.

32. (New) The molding machine according to claim 12, wherein the product is an optical lens.

33. (New) The molding method using the ultrasonic vibration according to claim 2, wherein a vibrator provided in the ultrasonic wave application means is inserted in a through-hole which communicates with the resin pit, and a tip of the vibrator forms a bottom of the resin pit.

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34. (New) The molding machine according to claim 12, wherein a vibrator provided in the ultrasonic wave application means is inserted in a through-hole which communicates with the resin pit, and a tip of the vibrator forms a bottom of the resin pit.